Lake Shore Pet Hospital

Lymphoma—Cats

Basics

OVERVIEW

- Lymphocytes are a type of white blood cell that are formed in lymphatic tissues throughout the body; lymphocytes normally are involved in the immune process
- Lymphoma is cancer (malignancy) of lymphocytes that usually involves lymph nodes or other lymphatic tissue of the body, but may involve other organs of the body (such as the liver or kidneys)
- Lymphoma in cats is found in various anatomic locations in the body, including the mediastinum (known as the “mediastinal form of lymphoma”)—the mediastinum is the center portion of the chest that contains the heart and other organs (except for the lungs); the gastrointestinal tract (known as the “alimentary form of lymphoma”); the kidneys (known as the “kidney or renal form of lymphoma”); multiple organs/tissues throughout the body (known as the “multi-centric form of lymphoma”); and the spinal cord (known as the “spinal form of lymphoma”)

SIGNALMENT/DESCRIPTION OF PET

Species

- Cats

Breed Predilections

- Siamese and other Oriental breeds may be more likely to have lymphoma than other cat breeds

Mean Age and Range

- Mean age of feline leukemia virus (FeLV)-positive cats with lymphoma—3 years
- Mean age of FeLV-negative cats with lymphoma—7 years
- Median age of cats with localized lymphoma, outside of the lymph nodes—13 years
- Most cats with Hodgkin's-like lymphoma are older than 6 years of age

SIGNS/OBSERVED CHANGES IN THE PET

- Depend on anatomic form
- Mediastinal form (located in the center of the chest)—open-mouthed breathing; coughing; regurgitation; lack of appetite (known as “anorexia”); weight loss; the front part of the chest is very firm and resistant to gentle compression during physical examination; fast breathing rate (known as “tachypnea”)
- Alimentary form (located in the gastrointestinal tract)—lack of appetite (anorexia); weight loss; sluggishness (lethargy); vomiting; constipation; diarrhea; black, tarry stools, due to the presence of digested blood (known as “melena”); frank blood in the stool; thickened intestines or abdominal masses
- Kidney or renal form—consistent with kidney failure (such as vomiting; lack of appetite [anorexia]; increased thirst [known as “polydipsia”]; increased urination [known as “polyuria”]; and sluggishness [lethargy]); large, irregular kidneys
- Nasal form (located in the nose or nasal passages)—discharge from the nose (known as “nasal discharge”) or

bleeding in the nose and nasal passages (known as “epistaxis” or a “nosebleed”); facial deformity; abnormalities of the eyes; excessive tearing (known as “epiphora”); abnormal breathing sounds; sneezing; lack of appetite (anorexia)
- Multi-centric form (located in multiple organs/tissues throughout the body)—possibly none in early stages; lack of appetite (anorexia), weight loss, and depression with progression of disease; enlargement of lymph nodes throughout the body; possible spleen and liver enlargement
- Spinal form—quickly progressing weakness to partial paralysis in rear legs (known as “posterior paresis”)
- Cutaneous (skin) lymphoma—itchiness (known as “pruritus); bleeding (hemorrhage); or masses on the skin accompanied by hair loss (hair loss known as “alopecia”)
- All forms—fever; dehydration; depression; extreme weight loss with muscle wasting (known as “cachexia”) in some pets

CAUSES

- Feline leukemia virus infection—pets inconsistently test positive during illness (for example, 85% are positive with the mediastinal form, 45% with the kidney form, 20% with the multi-centric form, and 15% with the alimentary (intestinal) forms of lymphoma test positive on FeLV test); older cats with lymphoma are usually FeLV negative, while younger cats are usually FeLV positive

RISK FACTORS

- Feline leukemia virus exposure
- Exposure to environmental tobacco smoke
- Feline immunodeficiency virus infection

Treatment

HEALTH CARE

- Outpatient, whenever possible
- Supportive medical care, if needed depending on clinical signs
- Fluid therapy, appetite stimulants, and other treatments based on clinical signs
- Radiation therapy—may be used for localized lymphoma such as in the nose; relapses outside the radiation field are not uncommon
- Consult a veterinary oncologist for chemotherapy doses, schedules, and to help assess best option(s) for treatment

ACTIVITY

- Normal

DIET

- No change in most cases; may require dietary change if cat has kidney failure
- Can add omega-3 (n-3) fatty acids (fish oil origin) to the diet

SURGERY

- To relieve intestinal blockages or obstructions, repair “holes” in the intestinal tract (known as “perforations”) that develop secondarily to the presence of the tumor and to surgically remove individual tumors
- To obtain biopsy specimens for microscopic examination

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Chemotherapy—used in a combination or sequential protocol; some protocols have induction and maintenance periods
- Many variations of similar combination chemotherapy exist; they all have similar effectiveness
- Low-grade intestinal lymphoma can respond to oral chlorambucil and prednisolone

Follow-Up Care

PATIENT MONITORING

- Physical examination, complete blood count (CBC), and platelet count—before each weekly chemotherapy treatment and one week after each time a new drug is administered, or if concerned about low blood cell counts
- X-rays (radiographs) or advanced imaging—as necessary, depending on location of primary tumor

PREVENTIONS AND AVOIDANCE

- Avoid exposure to or breeding feline leukemia virus–positive cats

POSSIBLE COMPLICATIONS

- Low white blood cell counts (known as “leukopenia”)
- Generalized bacterial infection (sepsis)
- Lack of appetite (anorexia), vomiting, weight loss from side effects of chemotherapy or advancing lymphoma

EXPECTED COURSE AND PROGNOSIS

- Depends on initial response to chemotherapy, anatomic type, feline leukemia virus status, and tumor burden; overall response rate is 50–70% to treatment
- Median survival with prednisone/prednisolone alone—1.5–2 months
- Median survival with combination chemotherapy (COP or CHOP)—6–9 months
- Mediastinal form (located in the center of the chest)—about 10% of affected pets with live more than 2 years
- Median survival with alimentary form (located in the gastrointestinal tract)—8 months
- Median survival with peripheral multi-centric form (located in multiple organs/tissues: “peripheral” refers to tissues away from the center of the body)—23.5 months
- Median survival with kidney form—if FeLV-negative, 11.5 months; if FeLV-positive, 6.5 months
- Median survival with nasal form—1.5–2.5 years with radiation and chemotherapy; chemotherapy may not improve survival over radiation alone
- Cats with Hodgkin's-like lymphoma can do well for extended periods of time (months to years), even without treatment

Key Points

- A treatment protocol should be established that fits the pet and the owner's lifestyle
- Side effects of chemotherapy are treatable and should be addressed promptly
- Goal is to induce remission and achieve a good quality of life for pets for as long as possible
- More than 80% of pet owners are pleased with their cat's quality of life during chemotherapy
  Young cats with lymphoma are generally FeLV positive; overall survival for positive cats is 3.5-4 months, for negative cats 7-17.5 months